



FOSTERING EFFECTIVE EARLY LEARNING (FEEL) Study, NSW DoE (DECEAR-15-35)

The Leadership for Learning Professional Development Programme Designed
to Enhance Pedagogy and Early Child Development

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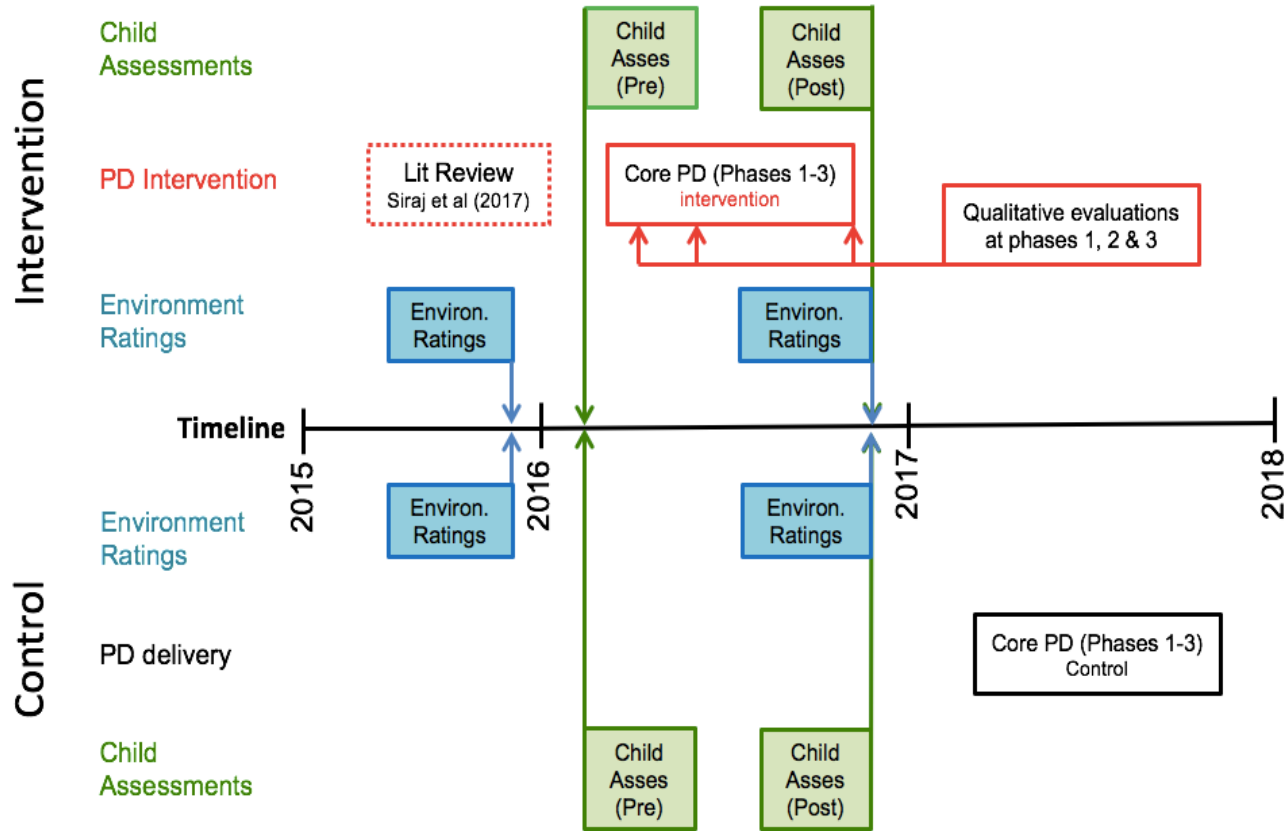
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Project Overview

1. Implement an evidence-based **Professional Development (PD) intervention**
2. Evaluate intervention effects on services' educational practices and programming
3. Design a cluster Random Controlled Trial (RCT) to evaluate this intervention on **educational quality** and **children's short- and longer-term outcomes** in literacy, numeracy, self-regulation and social development



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Recruitment and Randomisation Evaluation

	Intervention [?]	Control [?]
Number of centres [?]	38 (677 children) [?]	45 (669 children) [?]
# of preschool rooms [?]	39 [?]	54 [?]
Geographic location [?]	18 regional, 20 metro [?]	18 regional, 27 metro [?]
Service type [?]	28 LDC, 10 preschool [?]	31 LDC, 14 preschool [?]

[?]

Intervention and control centres were comparable on NQS and SEIFA, and near identical in baseline environmental ratings

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intervention Evaluation Approach

Centre-Level (**Direct effect**)

Environment Rating Scales

- Early Childhood Environmental Rating Scale – Extension (ECERS-E)
- Sustained Shared Thinking and Emotional Well-being (SSTEW) Scale

Child-Level (**Indirect effect**)

Language Development

- Verbal Comprehension (DAS sub-scale)
- EYT Expressive Vocabulary

Number Concept Development

- Early Number Concepts (DAS sub-scale)
- Preschool Early Numeracy Scale

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Environmental Ratings

Involves one-day fly-on-the-wall observations of structural and process quality by a highly trained and reliable observer, using two scales

SSTEWS

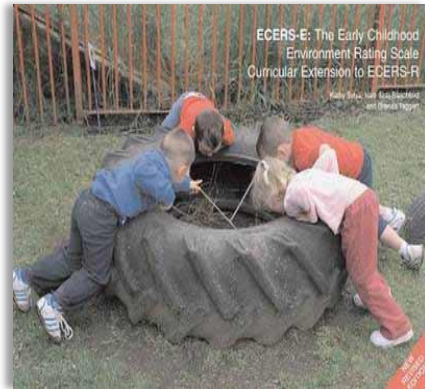
1. Building trust, confidence and independence
2. Social and emotional well-being
3. Supporting and extending language and communication
4. Supporting learning and critical thinking
5. Assessing learning and language

Siraj, Kingston and Melhuish (2015)

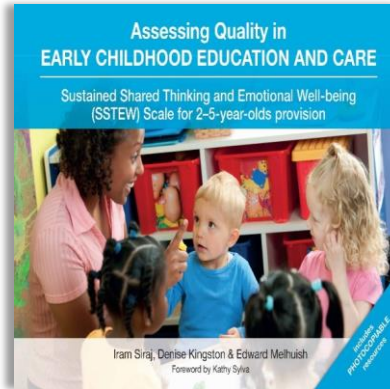
ECERS-E

1. Literacy
2. Mathematics
3. Science and Environment
4. Diversity

Sylva, Siraj-Blatchford & Taggart (2003)



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Sub-scale 4: Supporting learning and critical thinking

Item 10: Encouraging SST through storytelling, sharing books, singing and rhymes

Inadequate

1

1.1 Very little individual interaction during story/book time, singing or rhymes.

1.2 Staff involvement with stories, books, singing or rhymes is limited to whole group time.

Minimal

3

3.1 Staff respond to children asking for stories, books, singing or rhymes by helping them recall stories, locate and read books, singing with or engaging in rhyming, and word play as appropriate.

3.2 Staff invite children (individually or in small groups) to join them to sing, engage in word and rhyme play, or tell stories or read books.

3.3 Staff engage children in choosing songs, rhymes, stories or books and ask them about their choices.

3.4 Staff show that they know the children's preferred books, stories, songs or rhymes*.

Item 10: Encouraging SST through storytelling, sharing books, singing and rhymes

Good

5

5.1 Staff encourage the children to hold and 'read' books or retell familiar stories including their own 'stories', sing songs or join in with rhymes and word games.

5.2 Staff use props/puppets/the children themselves to support storytelling, engagement with songs or rhymes.

5.3 Children are given access to props and puppets to support retelling stories and use in free play.

5.4 Staff sing and engage in rhyming and word play while playing and interacting with the children during other activities.

Excellent

7

7.1 Staff use factual books to support children's understanding of concepts*.

7.2 Staff engage children with stories, singing etc. They support anticipation of familiar words, actions etc, make comments, evaluate stories/songs etc, and ask a few simple open-ended questions*.

7.3 Staff encourage children to make links between the story, book, song or rhyme and their previous experiences.

Sub-scale 1. Building trust, confidence and independence

Item 1. Self-regulation and social development

Inadequate		Minimal		Good		Excellent
1	2	3	4	5	6	7
1.1 Staff do not appear to agree about the boundaries/ rules/expectations or apply them consistently.*		3.1 Expectations and boundaries are made explicit and shared by all staff.*		5.1 Staff explain carefully to the children what they need to do and pre-empt any difficulties.*		7.1 Staff congratulate children when they follow the rules well – e.g. I saw you help put the tractor away. And/or the children are encouraged to tell staff how they followed the rules etc.*
1.2 Some children are left, even though they are obviously confused or distressed.		3.2 Staff are respectful and professional around the children, parents/carers, and each other.*		5.2 Staff show empathy and understanding when children do not want to follow rules or get upset.*		7.2 Staff have agreed processes that they follow when conflicts arise. The processes include engaging the children in problem-solving and finding solutions to disputes together.*
				5.3 Staff show an awareness of individuals and their needs, giving additional support and allowing some flexibility.*		
				5.4 Staff redirect inappropriate behaviour by stating what the children should do rather than what they should not.		

Areas identified for professional development (PD)

ECERS-E:

1. Language and Literacy
2. Maths and number
3. Science and the environment
4. Diversity (meeting and planning for the needs of individuals and groups)

Areas identified for PD

SSTEWS:

- Building trust, confidence and independence
- Social and emotional well-being
- Supporting and extending language and communication
- Supporting learning and critical thinking
- Assessing learning and language

Areas identified for PD

- High quality interactions & SST
- Talk/language & early literacy in home and pre-school
- Self-regulation & school readiness
- Concept development (in maths and science)
- Pedagogical leadership
- Tools for reflection trial/error

Phase 1: Intensive Professional Development

Intensive Professional Development: Leadership for Learning

Structure	Two-day intensive 3 x large group face-to-face training
Focus	<ul style="list-style-type: none">• Overview of research on quality ECEC; introduction to quality measures and planning tools.• Intentional and relational pedagogy – the role of the adult in fostering learning• Sustained shared thinking, language development and high quality interactions• Participant identification of areas of development & evaluation of content and delivery
Participants	Educators from the 38 intervention centres (n = 90)

LEADERSHIP FOR LEARNING: EXPECTED OUTCOMES

Increased awareness of evidence based learning and knowledge of recent understandings of effective practice with young children including the importance of relational and intentional pedagogy. Our relational pedagogy is founded in a strong child-centred approach; we are respectful and responsive to children, using their interests, knowledge and understanding to inform our intentional pedagogy.

OWN LEARNING

- Increased knowledge and understandings of child development and content knowledge in the areas of personal, social, emotional and self-regulation development and emergent language, literacy, numeracy, science and exploration.
- Better understanding of child-centred approaches to practice and the clear links between relational pedagogy and intentional teaching practices.
- Enhanced understanding of and respectful support for individual children and their specific needs so that all children's outcomes are enhanced, with particular attention given to supporting children deemed 'at risk'.
- Awareness of new approaches to the education and care of young children, each other and the people with whom you work .
- Increasing focus and responsiveness to the learning and understanding of all children, parents/carers, yourself and staff in your setting through reflective practice and ongoing quality improvement processes.
- Applying assessment and linking this with planning and intentional pedagogy both for individual children and groups.
- Greater confidence and understanding of the Home Learning Environment (HLE) and in working in partnership with parents/carers.
- Developing and practicing your role as Leaders for Learning Champions (LLC) supporting and leading change and quality improvement within your own settings as well as becoming active members of a larger community of learners.

PEER LEARNING

This is a challenge facing you as Leaders for Learning Champions (LLC). How will you take your new knowledge and understanding into your ECEC setting? How will you support the other members of staff that work in your centre/preschool? How will you effectively balance theory and practice?

- Collaborating and sharing of information.
- Using change plans to impact practice.
- Informal discussions and reflections.
- Delivering staff development sessions.
- Sharing of online support and information.
- Differentiating content and learning materials to suit the different staff working in your centre/preschool.
- And anything else?

CHILDREN'S LEARNING

The ultimate goal is to improve outcomes for children

- Extending communication and language, vocabulary and phonetic awareness
- Enhanced creativity – takes risks, is imaginative and curious.
- Uses metacognitive strategies – predicts, monitors, checks, reflects, evaluates
- Enhanced problem solving, emergent numeracy and literacy skills and scientific thinking.
- Improved self-regulation – perseverance, attention, engagement, ability to plan
- Enhanced emotional adjustment - understanding of emotions, increased initiation and responsiveness.
- Enhanced social skills and cultural competence – improved peer and adult connections
- Ownership over their own learning - active, autonomous and engaged thinkers.

Phase 2: Follow-Up Professional Development

Follow-up Professional Development: Leadership for Learning

Structure	<ul style="list-style-type: none">• Five bi-weekly half-day face-to-face sessions: Self-regulation (1); Critical thinking & Science (2); Numeracy (3); Language and Literacy (4); Leadership, Assessment & Documentation (5)• Includes initial access to online supported learning platform
Focus	<ul style="list-style-type: none">• Builds on Phase 1, introducing new content, skills, and pedagogical knowledge (e.g., assessment) using scaffolds• Interactive presentations designed to promote PD using examples of excellence in the areas of language, social and cognitive development, quality interactions, self-regulation, HLE and role of leadership for learning.• Allows educators to trial, build on and evaluate own planning, practices within your own ECEC contexts• Promotes individual adaptations, critical reflection on own and shared professional practice• Supports ownership and sustainability• Includes evaluation of content and delivery

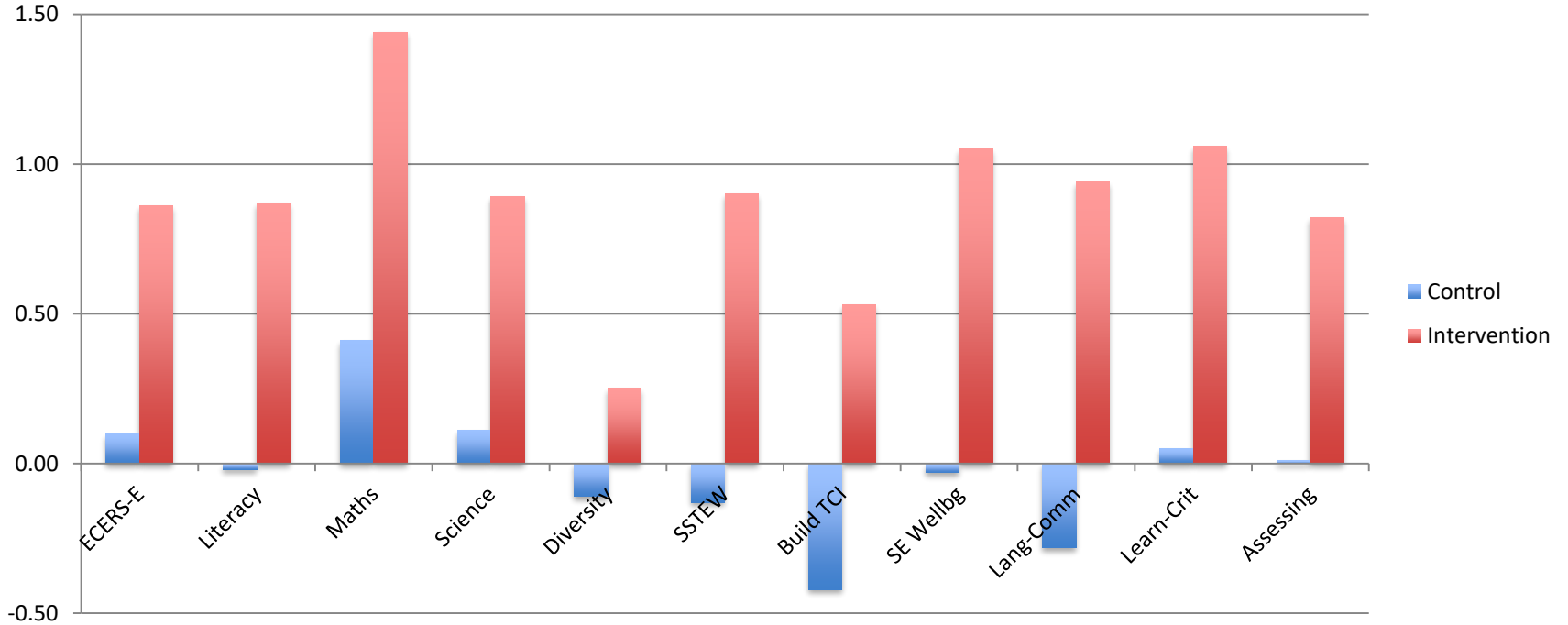
Phase 3: Model for Sustainability

Model for Sustainability: Leadership for Learning

Structure	<ul style="list-style-type: none">• Blended delivery incorporating online supported learning modules and community discussion forums• Additional face-to-face optional session
Focus	<ul style="list-style-type: none">• Builds on Phase 1 and 2 content• Online learning modules and communication forum designed to promote continual staff engagement and online community of educators• Encourages sharing of information with centre staff• Includes participant evaluation of content and delivery
Participants	<ul style="list-style-type: none">• Staff from the 38 intervention centres• Allows for new staff involvement (accounts for staff-turnover focusing on whole-centre change)

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intervention Evaluation Results: Environmental Ratings (ITT)



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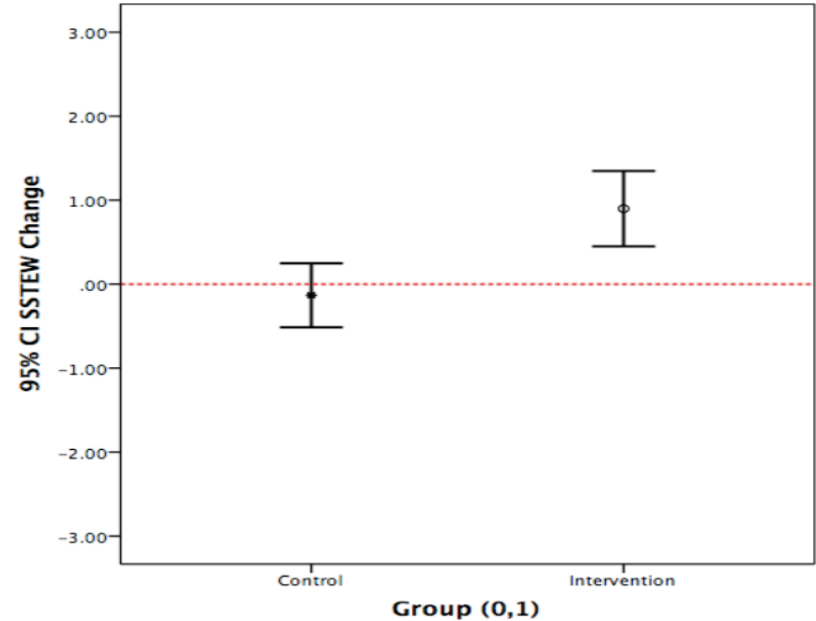
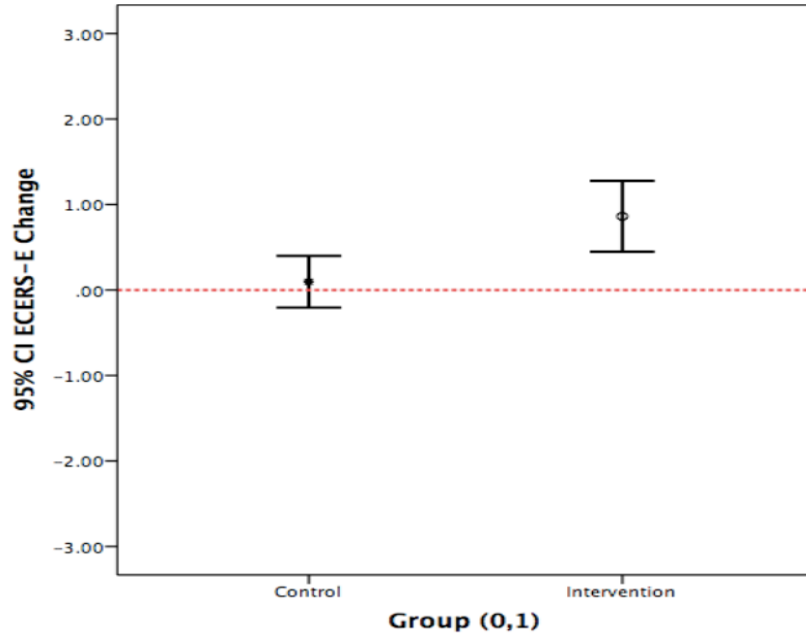
Intervention Evaluation Results: Environmental Ratings (ITT)

Scale	Control			Intervention		
	Baseline	Post-Test	Change	Pre-Test	Post-Test	Change
ECERS-E	3.09 (0.94)	3.19 (1.12)	+0.10	3.17 (1.03)	4.03 (1.25)	+0.86*
Literacy	3.81(1.12)	3.79(1.17)	-0.02	3.89(1.05)	4.76(1.21)	+0.87*
Mathematics	2.83(1.20)	3.24(1.57)	+0.41	2.87(1.17)	4.31(1.66)	+1.44*
Science	3.08(1.18)	3.19(1.24)	+0.11	3.19(1.36)	4.08(1.64)	+0.89*
Diversity	2.65(1.02)	2.54(1.01)	-0.11	2.74(1.27)	2.99(1.04)	+0.25
SSTEW	3.96 (1.25)	3.83 (1.28)	-0.13	4.00 (1.21)	4.90 (1.36)	+0.90*
Building Trust, Conf, Indep	4.89(1.30)	4.47(1.44)	-0.42	5.03(1.14)	5.56(1.25)	+0.53*
S-E Well-Being	4.09(1.70)	4.06(1.60)	-0.03	4.10(1.70)	5.15(1.66)	+1.05*
Language-Comm	4.44(1.34)	4.16(1.53)	-0.28	4.49(1.24)	5.43(1.32)	+0.94*
Learn-Critical Thinking	2.98(1.38)	3.03(1.31)	+0.05	3.08(1.40)	4.25(1.61)	+1.06*
Assess Learning & Lang	3.40(1.48)	3.41(1.37)	+0.01	3.28(1.50)	4.10(1.66)	+0.82*

?

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Intervention Evaluation Results: Environmental Ratings (ITT)

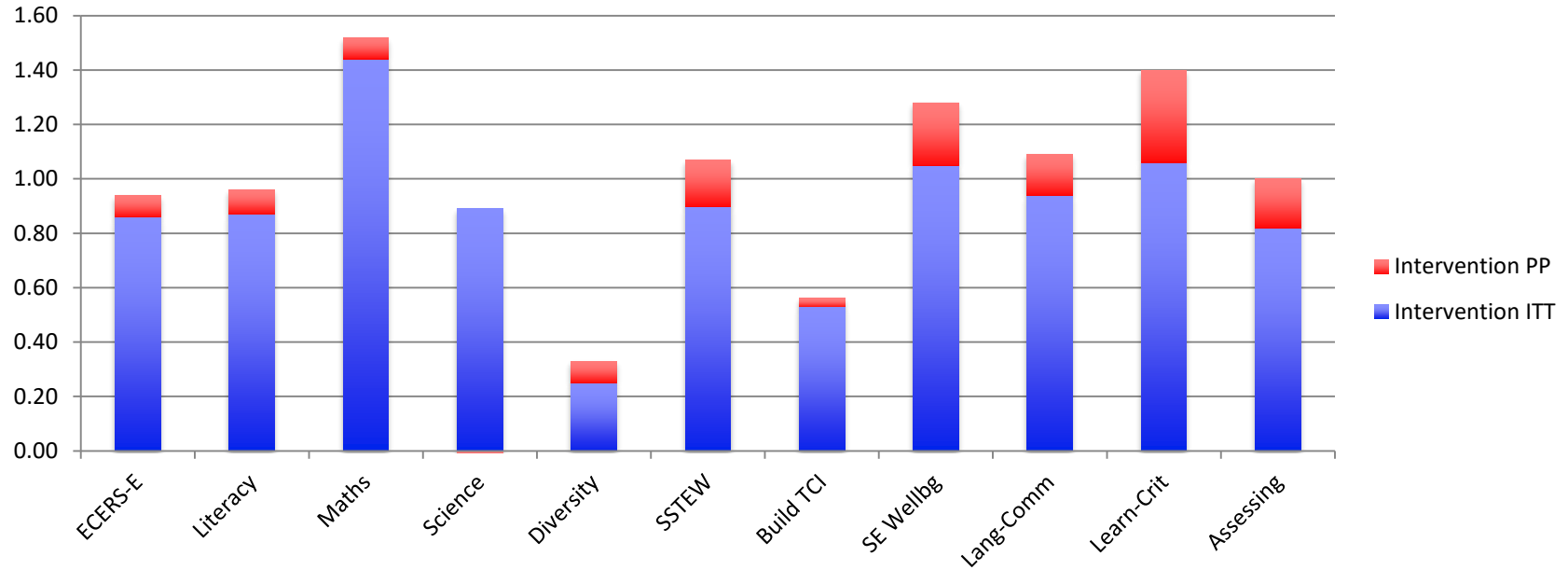


Environment ratings revealed significant improvement in educator practice in the intervention group

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Intervention Evaluation Results: Environmental Ratings (PP)

Intervention Group Change (PP)



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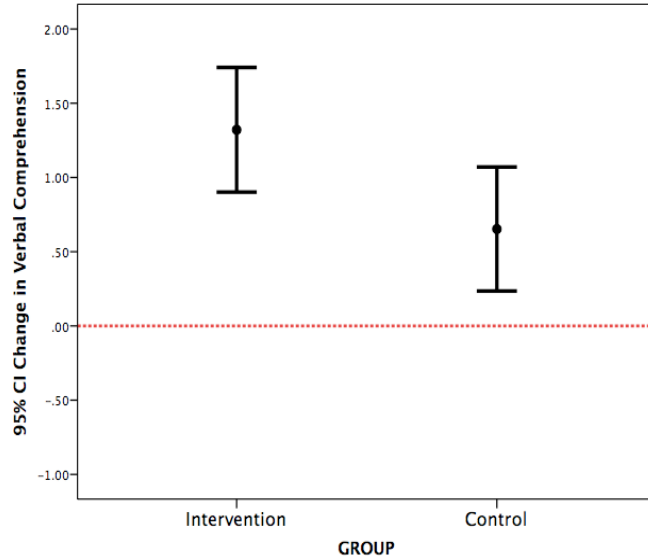
Intervention Evaluation Results: Child Assessments

Involves direct (40-50 mins) and indirect assessments (10 mins) of children's language, literacy, numeracy, self-regulatory and social development using well established measures:

- **Language & Literacy:** Differential Ability Scales (verbal comprehension), Early Years Toolbox (expressive vocabulary)
- **Numeracy:** Differential Ability Scales (early number concepts), Preschool Early Numeracy Assessment
- **Self-Regulation and Social Development:** Strengths & Difficulties Questionnaire, Child Self-Regulation and Behaviour Questionnaire

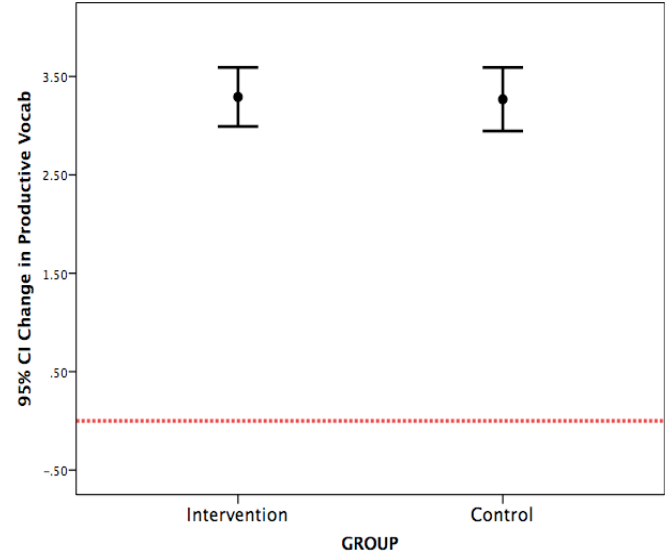
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Intervention Evaluation Results: Child Assessments



Verbal comprehension

- There was a significant effect of the PD on verbal comprehension (102%)

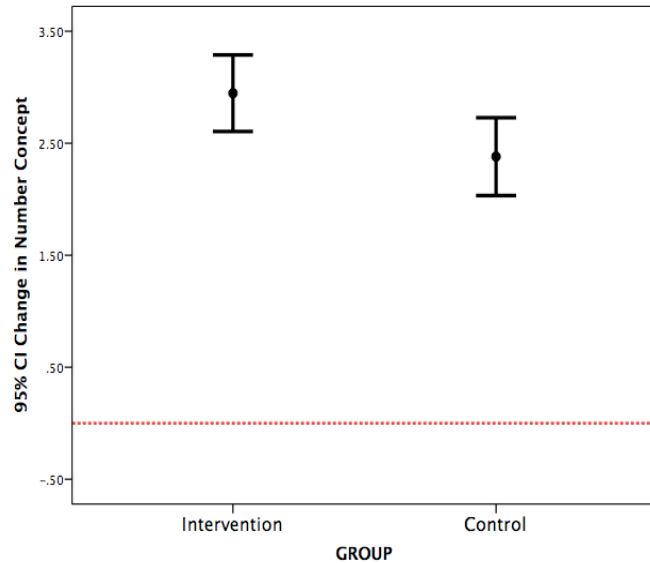


Expressive vocabulary

- There was no significant effect of the PD on expressive vocabulary

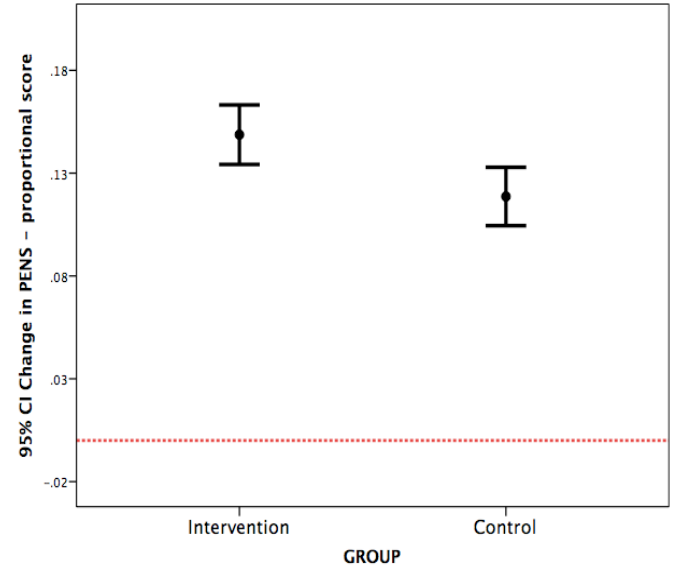
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Intervention Evaluation Results: Child Assessments



Number Concepts

- There was a significant effect of the PD on early number concepts (23%)



Preschool Early Numeracy

- There was a significant effect of the PD on early numeracy (28%)

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Intervention Evaluation Results: Summary

- Intervention centres showed improvement – over and above normal change (as indexed by control centres) – in environmental quality; this change further improved among per-protocol centres
- Children in the intervention group showed small, but consistent improvement – over and above normal change – on 3 of 4 child outcomes. This is especially notable given the limited exposure/’soak’ time (~4 months)
- Sensitivity analyses controlling for age, sex, maternal education and family income did not change the overall pattern of findings for the child outcomes
- Per-protocol analysis (omitting low-attendance centres in the PD) retained the overall pattern of small but significant child outcome effects

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Intervention Evaluation Results: Educator Perceptions

Personal growth: shifts in personal pedagogy, philosophical and attitudinal shifts; renewed sense of purpose; increased confidence and motivation; more goal oriented in practice

Improved pedagogy and practice: increased use of Sustained Shared Thinking (SST); use of more open-ended questioning to extend children and small groups; increased awareness of the important role of high quality interactions

Increased awareness and understanding: better understanding of the educational and socio-emotional needs of children; deeper understanding of the role of the educator in the lives of children and families

“An increased awareness and understanding of the importance and value of quality practice for preschool aged children and the role I play as an educator on facilitating better quality practice. The research statistics and tools given to us through the FEEL study have been invaluable in allowing us to apply assessments, implement planning and intentional pedagogy and practice reflective behaviour. Our goal has always been to provide positive experiences for children, both through small group work and respecting individuality and needs and the FEEL study has taken this to another level. I have a renewed enthusiasm and awareness as an educator. I see learning opportunities and experiences EVERYWHERE now, have better skills and knowledge in identifying, planning and implementing these experiences.” (Cert III, Assistant)

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Intervention Evaluation Results: Impact on Pedagogical Leadership

Approaches to Sharing of Information	Changes to Practice
<ul style="list-style-type: none">• Informal daily discussion (88%)• Professional development through online platform (58%)• Staff meetings (40%)• Mentoring of staff (28%)• Modelling of teaching practices (24%)	<ul style="list-style-type: none">• Reflective practice (35%)• Improved pedagogy (27%)• Increased use of Sustained Shared Thinking (SST) pedagogy (19%)• Increased support for children's self-regulation (18%)• Improved planning and use of the reflection and planning tool (17%)• Science and critical thinking (17%)

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Intervention Evaluation Results: Impact on Pedagogical Leadership

“We developed and presented several training packages from the information we were given, we shared the practical games and examples from the PD sessions and opened up discussions as a group. We looked at the scales and informally compared our own practices and environments against it. Our room coordinators, through the lens of our service philosophy, then supported their teams to translate this all into practice and develop improvement plans. Our educators now have a deeper understanding of what "High Quality" is, and why it is so important; what areas we should really focus our energy into; and what strategies can be used to support and assess them. This has allowed them to be far more effective and confident advocates and practitioners.” (Educational Leader and Assistant Director).

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Intervention Evaluation Results: Impact on Pedagogical Leadership

I feel my colleagues have witnessed a positive change not only in my attitude towards my role as an educator but within my room and my children. I try as best as possible to model and apply the skills and knowledge I have acquired through the FEEL study. I have a much deeper respect for the importance of what I do and I feel that my peers are aware of this. We share our knowledge and skills through staff meetings and modelling and staff are implementing this throughout our service. Although it may take some time I feel that we have already commenced a change within our centre as more staff are included and share the FEEL study. (Cert III, Assistant)

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Intervention Evaluation Results: Perceived Impact on Children

Changes to children's engagement and motivation and increased learning and problem-solving

- more engaged (60%)
- more active problem solvers (60%)
- asking more questions (43%)
- engaged in sustained shared thinking (25%)
- more confident in their interactions (19%)

“The children are so much more involved in their learning, more engaged and interested in discovering new things and even extending upon their prior knowledge. They have taken their learning to a new level that is deeper, where they are eager to use trial error with things and investigate without being worried about being wrong or right. They show a sense of being proud of their achievements and really want to share these achievements with others” (ECT - Supervisor)

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Intervention Evaluation Results: Perceived Impact on Families

- **Enhanced connections and increased involvement with families (61%):** sharing of ideas; supporting parents in their interactions with their children; parents noticing changes in their children; positive feedback received from families; and an indication that families showed greater understanding of their children's learning, particularly with respect to recognising the role of educators in their child's development
- **Increased use of strategies to engage parents in children's learning (47%):** 'yarn bags' to bring home; holding parent information evenings about self-regulation and posting information on the PD on the centre's Facebook site
- **Positive feedback from families (28%)**

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Intervention Evaluation Results: Perceived Impact on Families

Families are commenting on how much their children are involved in their learning and discussing it at home and how children are even investigating concepts further at home with them. Some Families have also asked for strategies in self-regulation as they have noticed positive changes in their children. (ECT, Supervisor)

Families have started seeing what we do as important, being able to have the interest as they ask where we were on the Friday or Wednesday has opened doors to educate families on the importance of the early years. And all of the learning that takes place. Why we have the resources we have out and what they can learn through using them. (ECT)

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Intervention Evaluation Results: Supports & Challenges

Perceived Supports	Challenges to Practice Change
<ul style="list-style-type: none">• Approachability, professionalism and passion of facilitators (70%)• Having additional staff attend (51%)• Access to scales/assessment tools (45%)• Inclusion of illustrative practice examples (45%)• Supportive staff and management (45%)• Collaborative goals and vision (42%)• Networking with other services (33%)	<ul style="list-style-type: none">• Time (66%)• Difficulties accessing online (54%)• Staff management and team characteristics (49%)• Staff resistance (29%)• Staff presence/part-time work (29%)• Difficulty sharing with staff who did not attend PD (26%)• Irregular or too short staff meetings (20%)

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intervention Evaluation Results: Supports & Challenges

“I believe that all the elements could not be without each other it was very holistic and I also believe that the human component to the phases and elements that were presented and cannot be over looked, without the presenters and their infectious motivation and enthusiasm I question if I would have rated the elements as highly. Yes the knowledge was there but without effective engagers some of the knowledge could well have been missed. So I do believe that it was the presenters that created the success and the "support"... I also believe that the value of the opportunity to talk with other educators from other centres and to hear their stories and see their examples etc cannot be under estimated in helping the elements to "support". (ECT)

Considerations and Implications

Individual v room/centre (*Leadership for Learning* model of influence)

Professional Development design

- structural supports (environmental quality descriptions and the planning tools)
- evidence-based practices where the PD provides clear links between practices and child outcomes
- fidelity and effectiveness linked to the capability, credibility and knowledge of those delivering the PD
- professionalisation of participants
- structure that allows for reflective practice during the PD
- enhanced knowledge of child development
- leadership

Inherent challenges

- time and support from team/management
- staff resistance, leadership indifference
- challenge of being a pedagogical leader – working with adults

Other PD trailblazers

- Quality interactions study (QIS) (Siraj, Cheeseman & Kingston 2016). Pilot RCT, 30 Centres 15 intervention in Central & Western Sydney. Funder DET NSW
- Researching Early Environment Learning (REEL) 2018, Siraj et al. Cluster RCT 70 centres in Victoria 35 intervention. Funder GoodStart
- Fostering Effective Early Learning (FEEL) Siraj et al 2018, Cluster RCT 90 centres, 45 intervention. Funder NSW DoE
- FEEL, 6 case studies of effective practice Neilsen-Hewett, Siraj & Howard, 2018. Funder NSW DoE
- Using Research Tools to Enhance Language (URLEY) forthcoming 2020, (Mathers, Siraj & Williams) RCT in 120 primary school reception/nursery classes, 60 intervention. Funder EEF, England.

PAST – EPPSE (2003), REPEY (2002)

Future – MOVERS pilot NSW, RCT in Victoria 2019-2021 - School readiness through improving physical development

Pedagogical policy implications:

- **What priority do we give to recognising, supporting and extending children's *thinking* during play, language, physical and cognitive tasks**
 - **in our organisation of time, variety, pace and space**
 - **in our interactions with individuals & small groups?**
- **How effectively do we monitor, engage and extend children's conversations?**
- **How well do our learning environment and the activities and routines we provide support, extend and challenge children's language and thinking?**
- **How visible do we make our own and the children's thinking?**
- **What do we need to do to improve this aspect of our practice?**
- **Making the links between the above and future skills of creativity, problem solving L2L and school/life readiness?**